

WHAT IS CLAIMED IS:

1. For towing a trailer having right and left stop and turn signal lamps that may be either combination lamps or separate lamps, a towing vehicle comprising:

- a combination right rear stop and turn signal lamp;
- a combination left rear stop and turn signal lamp;
- a separate right front turn signal lamp;
- a separate left front turn signal lamp;
- a right feed terminal for feeding a right lamp of a trailer to signal a right turn;

- a left feed terminal for feeding a left lamp of a trailer to signal a left turn;

- a selector for selecting either combination stop and turn signal lamps on the trailer or separate stop and turn signal lamps on the trailer;

- a first circuit device operated by the selector to connect the combination right rear stop and turn signal lamp to the right feed terminal when the selector is selecting combination stop and turn signal lamps on the trailer and to connect the right front turn signal lamp to the right feed terminal when the selector is selecting separate stop and turn signal lamps on the trailer; and

- a second circuit device operated by the selector to connect the combination left rear stop and turn signal lamp to the left feed terminal when the selector is selecting separate stop and turn signal lamps on the trailer and to connect the left front turn signal lamp to the left feed terminal when the selector is selecting separate stop and turn signal lamps on the trailer.

2. A towing vehicle as set forth in Claim 1 in which the first circuit device comprises a movable contact of a first relay and the second circuit device comprises a movable contact of a second relay.

3. A towing vehicle as set forth in Claim 2 in which the first and second relays each comprise a respective solenoid coil that is not energized when the selector is selecting combination stop and turn signal lamps on the trailer and that is energized when the selector is selecting separate stop and turn signal lamps on the trailer.

4. A towing vehicle as set forth in Claim 3 in which the selector comprises a selector switch that is effective via an electrical system controller in the vehicle to operate the relays.

5. A towing vehicle as set forth in Claim 1 in which the towing vehicle further comprises a brake feed terminal for brakes in the trailer, and a circuit device for selectively connecting and disconnecting the brake feed terminal to and from battery voltage in the towing vehicle.

6. A towing vehicle as set forth in Claim 5 in which the circuit device comprises a movable contact of a relay having a solenoid coil that, when energized, connects the brake feed terminal to battery voltage, and when not energized, disconnects the brake feed terminal from battery voltage.

7. A towing vehicle as set forth in Claim 6 in which the towing vehicle comprises an electric trailer brake controller providing a variable voltage for controlling the intensity of application of electric brakes in the trailer, and when the solenoid coil of the relay is not energized, the movable contact of the relay connects the variable voltage of the electric trailer brake controller to the brake feed terminal.

8. A towing vehicle as set forth in Claim 6 in which the towing vehicle comprises air service brakes, a tractor protection valve that requires actuation for releasing air brakes of a trailer coupled to the towing vehicle, and a pressure sensing device for sensing air pressure in an air line due to actuation of the tractor protection valve, and in which the pressure sensing device is effective to cause the solenoid coil of the relay to be energized, and hence the movable contact of the relay to connect battery voltage to the brake feed terminal, when sensing pressure in the air line due to actuation of the tractor protection valve.

9. A towing vehicle as set forth in Claim 6 in which the towing vehicle comprises a seven-terminal receptacle socket for receiving a connector plug of the trailer, and in which the right feed terminal, the left feed terminal, and the battery feed terminal are disposed in the receptacle socket.

10. For towing a trailer having brakes that may be either electric brakes or ABS-controlled air brakes, a towing vehicle comprising:

a brake feed terminal for brakes in the trailer, and a circuit device for selectively connecting the brake feed terminal to battery voltage in the towing vehicle when the trailer brakes are ABS-controlled air brakes and to an electric trailer brake controller in the towing vehicle when the trailer brakes are electric trailer brakes.

11. A towing vehicle as set forth in Claim 10 in which the circuit device comprises a movable contact of a relay having a solenoid coil that, when energized, connects the brake feed terminal to battery voltage.

12. A towing vehicle as set forth in Claim 11 in which the towing vehicle comprises air service brakes, a tractor protection valve that requires actuation for releasing air brakes of a trailer coupled to the towing vehicle, and a pressure sensing device for sensing air pressure in an air line due to actuation of the tractor protection valve, and in which the pressure sensing device is effective to cause the solenoid coil of the relay to be energized, and hence the movable contact of the relay to connect battery voltage to the brake feed terminal, when sensing pressure in the air line due to actuation of the tractor protection valve.

13. A towing vehicle as set forth in Claim 10 in which towing vehicle comprises a seven-terminal receptacle socket for receiving a connector plug of the trailer, one of the seven terminals being the battery feed terminal.

14. A towing vehicle as set forth in Claim 13 in which the towing vehicle comprises stop and turn signal lamps for signaling a stop, a right turn, and a left turn, a second terminal in the receptacle socket is a right turn signal feed terminal, a third terminal in the receptacle socket is a left turn signal feed terminal, and a fourth terminal in the receptacle socket is a stop signal feed terminal.